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USES OF MODERN TECHNOLOGIES IN GAMES AND SPORTS

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ABSTRACT

The world of sport is continually changing over the years, and the use of technology is just one of those areas that have made an impact on many sports in the modern day. See the annual sports technology awards for the latest technology ideas in the world of sport. Most professional sports in the United States have long used instant replay and other high-tech aids to help referees make the right call.

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1. INTRODUCTION

The world of sport is continually changing over the years, and the use of technology is just one of those areas that have made an impact on many sports in the modern day. See the annual sports technology awards for the latest technology ideas in the world of sport. Most professional sports in the United States have long used instant replay and other high-tech aids to help referees make the right call.

Cricket has a known history spanning from the 16th Century, with international matches being played since 1844. Until 19th century bowlers used underhand bowling in cricket. It was in 1862, when a British player left the field in protest over a; call for raising the arm over the shoulder for delivering a ball. So, a regulation was passed allowing bowlers to bowl overhand making it more complex for the batsman to judge the movement of the ball. During the late 1900's, the shorter version of the game (twenty-twenty (T20)) was introduced in order to attract crowds to stadiums. And till then Cricket has come a long way with several modifications with rules affecting the nature of game play.

Technology has become an inbuilt part of sports and the development of sports and leisure time activities has opened possibility for the integration of technology, not only for athletes but also for the general population. At the same time,

the acceptance of sports activities as an important factor for the general health has been fully recognized. This has made sports a significant field of interest for the industry which focuses on the development of equipment and human performance, advanced technological equipment and the interplay between sports and health related products like sports equipment, shoes, rackets, flooring and other apparels.

One sport that has so far resisted the use of high-tech assistance is soccer (football). It is about time they got with the 20th century. They can't avoid the power of the people and the power of the TV replays to upgrade their sports. There are multiple ways that technology could help the refs. How about replays being used to adjudicate on off-side decisions, whether a ball passes over the goal line, and to clarify penalty decisions. An off-field referee could communicate with the umpires on the field using wireless technology.

2. HAWK – EYE

Hawk-Eye is a computer system used in cricket to track the path of the ball. It was invented by Dr. Paul Hawkins, a former Buckinghamshire player. Hawk-Eye uses technology originally used for brain surgery and missile tracing. It uses six specially placed cameras around to track the path of the ball, from when it was released from the bowler's hand right up until when it's dead. It can track any type of bounce, spin, swing and seam. And it is about 99.99% accurate. It can also create a "grouping" on a pitch to show exactly where a bowler has bowled to a batsman. Hawk-Eye also measures the speed of the ball from the bowler's hand, so it will tell you exactly how much time the batsman has to react to a ball. In this case it is enhanced video review, rather than the ball tracking technology as used in other sports i.e.

Tennis - it is now standard at the major tennis tournaments for a line review system to be in place, with players given power to review contentious line calls. It is powered by the Hawk-Eye ball tracking system. See more about Hawk Eye for Tennis.

Soccer / Football - Soccer is looking at joining the 21st century, looking at various technologies for the goal line to determine if the pass passes over the line or not. See more about Football/Soccer Technology.

Basketball - the NBA uses replay vision to review 'last touch' decisions in the final two minutes of games, and also to determine whether players release the ball before the shot clock expires.

Cricket - technology in cricket has been driven by advances in the TV coverage. Things that were once extra information provided by the TV networks are now being incorporated into the decision referral system (DRS), such as hawk-eye and hot spot, and maybe even the old favorite snicko. See more about Cricket Technology.

Aussie Rules Football - umpire review system has also been implemented in AFL, with an off field umpire in certain circumstances adjudicating on whether the ball passes over the goal line or is touched, using video evidence via multiple camera angles. See more about Technology in AFL.

Baseball - In 2014 a challenge system was put in place for the MLB to use replays to challenge certain umpiring decisions. See more about Technology in Baseball.

Rugby Union - In 2015, Hawkeye technology was used by rugby officials at the 2015 Rugby World Cup. The video review technology with synchronized camera views was used to improve decision-making by the television match official (TMO) and also used by medical staff to assist with player safety by identifying possible concussion instances and behind play incidents.

Rugby League - The NRL was an early implementer of using the video referee to help adjudicate questionable tries.

HOT SPOT

Hot Spot is an infra-red imaging system used in tennis badminton and Cricket to determine whether the ball has struck the batsman, bat or pad and drop on the line or outside of the lines.. It requires two infra-red cameras on opposite sides of the ground above the field of play that are continuously making image. Any suspected snick or bat / pad event can be verified by examining the infra-red- image, which usually shows a bright spot where contact friction from the ball shuttle has elevated.

LED ZING BAILS

They are most advanced technological invention in modern day cricket powdered by low-voltage batteries, light up the moment they are displaced from the stumps, meanwhile sending a radio signal to the stumps which also glow red. The stumps are made up of composite plastic and have sensors which are connected to a microprocessor. The bails. Themselves contain a sensor that can determine within one-thousandth of a second, when a wicket is hit and a radio signal is sent to the stumps making them glow bright red light.

SPIDERCAM

It is a system which enables film and T.V. cameras to move both vertically and horizontally over a predetermined area, typically the playing field of a sporting event such as cricket pitch, football field or a tennis court. It is operated with the help of four motorized winches (pulleys) positioned at each corner at the base of the covered area.

SNICKOMETER

It is commonly known as "Snicko" in the cricket dialect, the Snick-O- Meter was invented by Allan Plaskett to help the umpires in detecting edge and the preceding caught behind the wicket and to graphically analyze sound and video and show the noise frequency to find out whether the ball touched the bat before going to the fielder. The technology uses a microphone, placed near the stumps, to detect the sound of the hit and determine the surface of the impact. It utilizes the variation of sound frequencies of the ball while hitting different surfaces. The frequency of the sound will be different if it hits the bat or the glove, from the sound of the ball hitting the bat. The Snick meter is frequently used by third umpires to take decisions on a complex catch appeal when the ground umpires refers to the third umpire.

STUMP CAMERA

The stump Camera is small T.V. camera stuffed inside a hollow stump. The camera gets aligned vertically the camera view through a small window on the side of the stump via a mirror. These cameras help generate unique view of play for action plays specifically when a batsman gets bowled.

SPEED GUN

The Speed Gun is used to measure the speed of the ball from one end of the pitch to the other. The technology allows calculating the speed of bowler delivery. Implemented first in 1999, the speed gun gets mounted on a pole and positioned next to the sight screen. The device relays a beam from the radar head to detect movement across the entire length of the pitch. This technology actually tells us who is the fastest bowler and what was the highest speed the player achieved while setting up the record.

BOWLING- MACHINE

A Bowling Machine enables a batsman or any other games player to practice and to expertise specific skills through repetition of the ball being bowled at a certain length, line and speed. It can also be used when there is no one available to bowl, or no one of the desired style or standard. There are various types of bowling machines, which are quite different in the ways they achieve the required delivery. Most of the machines are remote controlled, so that a coach can be closer to a batsman when the stroke is played.

3. CONCLUSION:

Like any human Endeavour, sports advance over time and Science and technology fuel these changes, providing ever-better equipment made with superior materials, better information about nutrition and training and improvements in data generation and analysis that help to push the limits of athletic capability. Errors by Umpires on a cricket, hockey, football and others fields of sports were common it all began with the Decision Review System (DRS), introduced. Since then the use of technology has evolved the game and the introduction of new gadgets have only added to the decision-making process in the sport. The prime motive behind the introduction of such technological aspects was a means to assist the umpires rather than to challenge their decisions. So it is slowly but surely becoming an important part of the game.

CONFLICT OF INTEREST

None

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None

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